

Patent claims

1. A laser diode with a vertical resonator, characterized by a means for shaping the beam profile of the laser diode, the  
5 means having at least one decoloring absorber means (5) in the vertical resonator.

2. The laser diode as claimed in claim 1, characterized by at least one pn junction of III-V or II-VI compound semiconductor  
10 material.

3. The laser diode as claimed in claim 1 or 2, characterized in that at least one absorber means (5) is monolithically integrated into a series of layers.  
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4. The laser diode as claimed in claim 3, characterized in that at least one absorber means (5) is arranged in the Fabry-Perot resonator of the series of layers.

20 5. The laser diode as claimed in at least one of the preceding claims, characterized in that at least one absorber means (5) is arranged outside the depletion zone of the pn junction.

25 6. The laser diode as claimed in at least one of the preceding claims, characterized in that at least one absorber means (5) is formed as a layer in the vertical resonator, the thickness of the layer being small, approaching a quarter of the material wavelength.  
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7. The laser diode as claimed in at least one of the preceding claims, characterized in that at least one absorber means (5) is formed as a layer with the thickness of the layer being greater than a quarter of the material wavelength.

